UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

ROOF RUNOFF MANAGEMENT
(No.)
CODE 558

DEFINITION

A facility for collecting, controlling, and disposing of runoff water from roofs.

PURPOSE

To prevent roof runoff water from flowing across concentrated waste areas, barnyards, roads, and alleys, and to reduce pollution and erosion, improve water quality, prevent flooding, improve drainage, and protect the environment.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies where: (1) a roof runoff management facility is included in an overall plan for a waste management system; (2) roof runoff water may come in contact with wastes or cause soil erosion; and (3) barnyard flood protection or improved drainage is needed.

CRITERIA

Capacity. Design of roof runoff management facilities shall be based on runoff from a 10-year frequency, 5-minute rainfall except that a 25-year frequency, 5-minute rainfall shall be used to design such facilities for exclusion of roof runoff from waste treatment lagoons, waste storage ponds, or similar practices. Rainfall from Figures 1 and 2 or reliable local records may be used for design.

Materials. Roof gutters and downspouts may be made of aluminum, galvanized steel, wood, or plastic. Aluminum gutters and downspouts shall have a nominal thickness of at least 0.027 and 0.020 in., respectively. Galvanized steel gutters and downspouts shall be at least 28 gage. Wood shall be clear and free of knots. A water-repellent preservative shall be applied to the flow area of wood other than redwood, cedar, or cypress. Plastics shall contain ultraviolet stabilizers. Dissimilar metals shall not be in contact with each other.

Supports. Gutter supports shall have sufficient strength to withstand anticipated water, snow, and ice loads. They shall have a maximum spacing of 48 in. for galvanized steel and 32 in. for aluminum or plastic. Wood gutters shall be mounted on fascia boards using furring blocks that are a maximum of 24 in. apart. Downspouts shall be securely fastened at the top and bottom with intermediate supports that are a maximum of 10 ft. apart.

Outlets. The water from roof runoff management facilities may empty into surface drains or underground outlets, or onto the ground surface. When downspouts empty onto the ground surface, there shall be an elbow to direct water away from the building and splash blocks or other protection shall be provided to prevent erosion.

Protection. Roof runoff management facilities and outlets shall be protected from damage by livestock and equipment.

CONSIDERATIONS

No special considerations have been identified for this practice.

PLANS AND SPECIFICATIONS

Plans and specifications for installing roof runoff management facilities shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

OPERATION AND MAINTENANCE

Periodically clean leaves and other debris from gutters and buried outlets. Repair leaks and other damage as needed.

NRCS, Alabama
October 1999

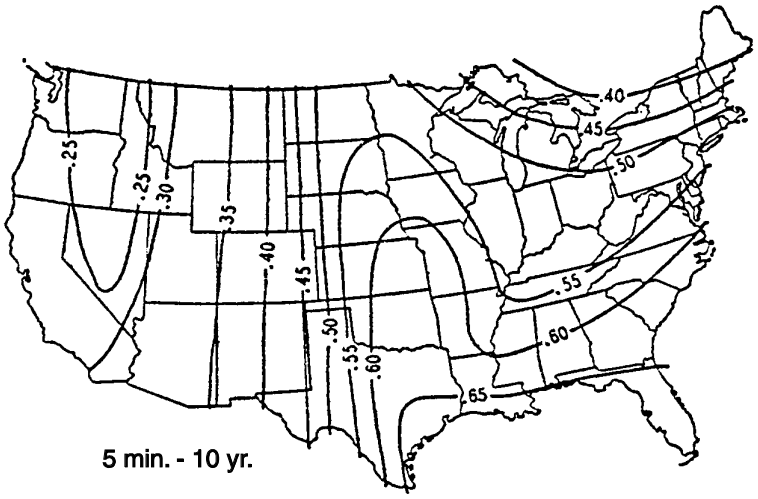

Figure 1. - Ten-year frequency, five-minute rainfall (inches)

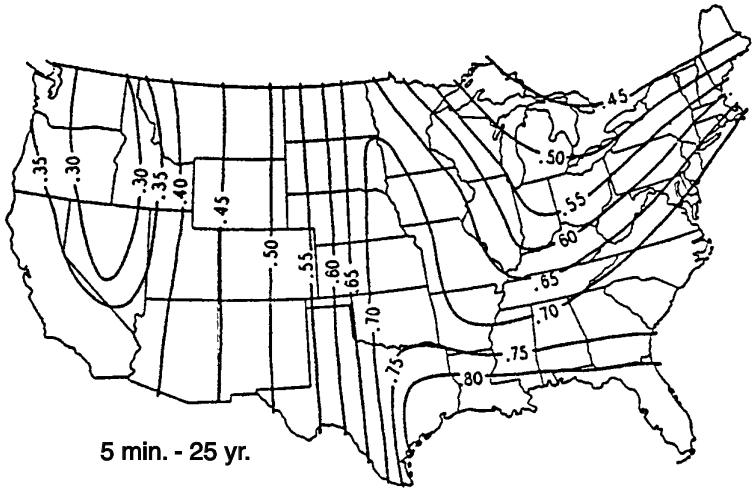

Figure 2. - Twenty-five-year frequency, five-minute rainfall (inches)